

SN 09/760,156

7. (Amended) A method for producing a first generation (F_1) hybrid maize seed comprising crossing the plant of claim 2 with a different parent maize plant and harvesting the resultant first generation (F_1) hybrid maize seed.

9. (Amended) An F_1 hybrid seed produced by crossing the maize plant according to claim 2 with another, different maize plant.

11. (Amended) The maize plant, or parts thereof, of claim 2, wherein the plant or parts thereof contains one or more transgenes.

12. (Amended) A method for producing a maize plant comprising crossing the maize plant of claim 11 with a second plant.

13. (Amended) The maize plant, or parts thereof, produced by the method of claim 12.

14. (Amended) A maize plant, or parts thereof, wherein at least one ancestor of said maize plant is the maize plant of claim 2, said maize plant expressing a combination of at least two PH5DR traits which are not significantly different from PH5DR traits when determined at the 5% significance level and when grown in the same environmental conditions, said PH5DR traits selected from the group consisting of: a relative maturity of 120 based on the Comparative Relative Maturity Rating System for harvest moisture of grain, grain yield, test weight, disease resistance, and cold test score; and wherein said at least two PH5DR traits were not exhibited by other plants utilized in the development of said maize plant.

15. (Amended) A method for developing a PH5DR-derived maize plant, or parts thereof, in a maize plant breeding program using plant breeding techniques comprising:

- a) obtaining the maize plant, or its parts, of claim 2 ;
- b) crossing said maize plant to a different plant; and
- c) growing the seed produced to obtain a PH5DR-derived maize plant, or parts thereof.

SN 09/760.156

16. (Amended) The method of claim 15 wherein plant breeding techniques are selected from the group consisting of: recurrent selection, backcrossing, pedigree breeding, restriction fragment length polymorphism enhanced selection, and genetic marker enhanced selection.

17. (Amended) The PH5DR-derived maize plant, or parts thereof, produced by the method of claim 15 wherein the method comprises 2 or less crosses to a plant other than PH5DR or a plant that has PH5DR as a progenitor.

19. (Amended) The maize plant of claim 18, wherein the single gene conversion is a dominant allele.

20. (Amended) The maize plant of claim 18, wherein the single gene conversion is a recessive allele.

21. (Amended) A maize plant, or parts thereof, having all the physiological and morphological characteristics of inbred line PH5DR, representative seed of said line having been deposited under ATCC accession No. PTA-4525.

22. (Amended) The maize plant of claim 21, wherein said plant further comprises a genetic factor conferring male sterility.

24. (Amended) The tissue culture according to claim 23, cells or protoplasts of the tissue culture having been isolated from a tissue selected from the group consisting of leaves, pollen, embryos, roots, root tips, anthers, silks, flowers, kernels, ears, cobs, husks, and stalks.

25. (Amended) A maize plant regenerated from the tissue culture of claim 23, capable of expressing all the morphological and physiological characteristics of inbred line PH5DR, representative seed of which have been deposited under ATCC Accession No. PTA-4525.

SN 09/760,156

26. (Amended) A method for producing a first generation (F₁) hybrid maize seed comprising crossing the plant of claim 21 with a different parent maize plant and harvesting the resultant first generation (F₁) hybrid maize seed.

27. (Amended) The method of claim 26 wherein the maize plant of claim 21 is the female or male parent.

28. (Amended) An F₁ hybrid seed produced by crossing the maize plant according to claim 21 with another, different maize plant.

30. (Amended) The maize plant, or parts thereof, of claim 21, wherein the plant or parts thereof, further comprises one or more transgenes, and wherein the maize plant, or parts thereof, are essentially unchanged from the corresponding plant, or plant parts thereof, of inbred maize line PH5DR.

31. (Amended) A method for producing a maize plant comprising crossing the maize plant of claim 30 with a second plant.

32. (Amended) The maize plant, or parts thereof, produced by the method of claim 31.

33. (Amended) A PH5DR-derived maize plant, or parts thereof, wherein at least one ancestor of said maize plant is the maize plant of claim 2, and wherein the pedigree of said PH5DR-derived maize plant is within 2 or less crosses to a plant other than PH5DR or a plant that has PH5DR as a progenitor.

34. (Amended) A method for developing a PH5DR-derived maize plant, or parts thereof, in a maize plant breeding program using plant breeding techniques comprising:

- a) obtaining the maize plant, or its parts, of claim 21;
- b) crossing said maize plant to a different plant; and
- c) growing the seed produced to obtain a PH5DR-derived maize plant, or parts thereof.

SN.09/760.156

35. (Amended) The method of claim 34 wherein plant breeding techniques are selected from the group consisting of: recurrent selection, backcrossing, pedigree breeding, restriction fragment length polymorphism enhanced selection, and genetic marker enhanced selection.

36. (Amended) The PH5DR-derived maize plant, or parts thereof, produced by the method of claim 34, wherein the method comprises 2 or less crosses to a plant other than PH5DR or a plant that has PH5DR as a progenitor.

37. (Amended) A process for producing inbred PH5DR, representative seed of which have been deposited under ATCC Accession No. PTA-4525, comprising:

- (a) planting a collection of seed comprising seed of a hybrid, one of whose parents is inbred PH5DR said collection also comprising seed of said inbred;
- (b) growing plants from said collection of seed;
- (c) identifying said inbred PH5DR plants;
- (d) selecting said inbred PH5DR plant; and
- (e) controlling pollination in a manner which preserves the homozygosity of said inbred PH5DR plant.

40. (Amended) A method for producing a PH5DR-derived maize plant, comprising:

- (a) crossing inbred maize line PH5DR, representative seed of said line having been deposited under ATCC Accession No. PTA-4525, with a second maize plant to yield progeny maize seed;
- (b) growing said progeny maize seed, under plant growth conditions, to yield said PH5DR-derived maize plant.

41. (Amended) A PH5DR-derived maize plant, or parts thereof, produced by the method of claim 40.

42. (Amended) The method of claim 40, further comprising:

- (c) crossing said PH5DR-derived maize plant with itself to yield additional PH5DR-derived progeny maize seed;

SN.09/750,156

(d) growing said progeny ~~maize~~ seed of step (c) under plant growth conditions, to yield additional PH5DR-derived maize plants;

B2
cancel

(e) repeating the crossing and growing steps of (c) and (d) to generate further PH5DR-derived maize plants.

43. (Amended) The further PH5DR-derived maize plants, or parts thereof, produced by the method of claim 42.

44. (Amended) The method of ~~claim~~ 40, still further comprising utilizing plant tissue culture at step (b) to regenerate said PH5DR-derived maize plant.

47. (Amended) The maize plants, or parts thereof, of claim 21, further comprising one or more single gene conversions, wherein the maize plant, or parts thereof, are essentially unchanged from the corresponding plant, or plant parts thereof, of inbred maize line PH5DR.

48. (Amended) The maize plant of claim 47, wherein the single gene conversion is a dominant allele.

49. (Amended) The maize plant of claim 47, wherein the single gene conversion is a recessive allele.